National Institute of Environmental Health Sciences

Climatic conditions and the risk of testicular torsion in adolescent males

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Abstract:

PURPOSE: The risk factors for acute testicular torsion are poorly understood. Environmental factors have been implicated by some authors and discredited by others. The only previous known study in the United States did not demonstrate any seasonal correlation, although the study was done in a warmer climate. We sought to determine if environmental factors impact the incidence of testicular torsion in our temperate climate conditions with a large differential between the warmest and coldest temperatures. MATERIALS and METHODS: We retrospectively studied patients who were diagnosed with testicular torsion between January 1997 and December 2006. Data regarding weather conditions were collected, including season, temperature, humidity and atmospheric pressure at the time of onset of symptoms. Spearman's rank correlation was performed to assess the relationship between atmospheric temperature and frequency of testicular torsion. Multivariate analysis was performed to analyze the effect of covariables. RESULTS: A total of 58 children presented with testicular torsion. Mean temperature at onset of symptoms was 6.9C (range -12C to 23C). Of the patients 81% had symptom onset when the atmospheric temperature was less than 15C. Seasonal incidence of testicular torsion was 36.2%, 31%, 19% and 13.8% for spring, winter, summer and fall, respectively. Spearman's rank correlation test revealed a significant negative correlation between the incidence of testicular torsion and increasing temperature (r Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) -0.94, p

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

United States

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Other Health Impact

Other Health Impact: Testicular torsion

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content